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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

MAILED

Application Number: 10/038,655

Filing Date: January 08, 2002

Appellant(s): ITO, HIDETAKA

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Technology Center 2100

Hidetaka Ito
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/24/2006 appealing from the Office action mailed 05/01/2006.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 2003/0137933	Yamada et al.	07-2003
US 6,311,288	Heeren et al.	10-2001
US 6,181,680	Nagata et al.	01-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-18 are rejected under 35 U.S.C. 102 and 103. This rejection is set forth in a prior Office Action, mailed on 05/01/2006.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 5, 7, 9-13, 15, 16 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamada et al. [US Patent Application No 2003/0137933].

3. As per claim 1, Yamada discloses the invention substantially as claimed including a PVC switching control method for controlling a PVC connection in a communication network [i.e. monitor connection and switch over to reserve connection in case of failure] [Abstract; and paragraph 0009], comprising:

setting a plurality of PVC connections [i.e. set up plurality of primary connections] [Figures 2 and 3; and paragraphs 0009, 0046 and 0048] and individually corresponding controlling connections between two exchanges of the communication network [i.e. set up the corresponding reserve relay connection] [paragraph 0042];

detecting, by each of the exchanges, occurrence of or release from trouble with a PVC connection through the corresponding controlling connection [i.e. periodic monitor control PVC at each exchange unit for detection of a line failure] [A2, B2, Figure 13, Abstract; and paragraphs 0009 and 0041]; and

switching an operative PVC connection to another one of the PVC connections in response to a result of the detection [i.e. switch the connection over to reserve connection in the event of a line failure] [A4, Figure 3; Abstract; and paragraphs 0008-0010].

4. As per claim 2, Yamada discloses wherein, if while one of the PVC connections is used as a currently used PVC connection, it is detected from the corresponding controlling connection that trouble has occurred with the currently used PVC connection, then each of the exchanges switches the operative PVC connection to another one of the PVC connections as a bypassing

PVC connection [i.e. at each exchange unit, switch over to reserve connection in event of line failure] [Abstract, paragraphs 0009 and 0011].

5. As per claim 4, Yamada discloses wherein the controlling connections are set by an operation administration and maintenance function [paragraph 0006].

6. As per claim 5, Yamada discloses wherein each of the exchanges detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connections [paragraph 0005].

7. As per claim 7, it is rejected for similar reasons as stated above in claim 1. Furthermore, Yamada discloses set a master PVC connection [i.e. set primary line connections] and set a bypassing PVC connection [i.e. set reserve line connections] [Figures 2 and 4; and paragraphs 0046 and 0048].

8. As per claim 9, Yamada discloses wherein a plurality of repeating exchanges are connected on a route of the bypassing PVC connection and a connection for forming the bypassing PVC connection is set in each of the repeating exchanges [i.e. plurality of exchange unit] [paragraph 0159].

9. As per claim 10, Yamada discloses wherein each of the first and second exchanges designates a connection set in advance and signals a cell to a neighboring one of the plurality of

repeating exchanges through the designated connection [i.e. the connections are set in advance in each exchange unit] [paragraphs 0119, 0142 and 0159].

10. As per claim 11, it is rejected for similar reasons as stated above in claim 1.
11. As per claim 12, it is rejected for similar reasons as stated above in claims 4-6.
12. As per claim 13, it is rejected for similar reasons as stated above in claim 2.
13. As per claims 15 and 16, it is rejected for similar reasons as stated above in claim 4 and 5.
14. As per claim 18, it is rejected for similar reasons as stated above in claim 7.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2154

16. Claims 3, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. [US Patent Application No 2003/0137933], in view of Heeren et al. [US Patent No 6,311,288].

17. As per claim 3, Yamada does not specifically disclose wherein, if, while the bypassing PVC connection is used, it is detected that the currently used PVC connection has been released through the corresponding controlling connection, then each of the exchanges switches the operative PVC connection to the currently used PVC connection. Heeren discloses wherein, if, while the bypassing PVC connection is used, it is detected that the currently used PVC connection has been released through the corresponding controlling connection, then each of the exchanges switches the operative PVC connection to the currently used PVC connection [i.e. restore the communication from the alternate path to the primary path] [Abstract; and col 3, lines 50-57]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Yamada and Heeren because Heeren's teaching of restoring PVC connection would allow system to return to its original stage so that system resource such as backup PVC connection can be reused for other purposes.

18. As per claim 8, it is rejected for similar reasons as stated above in claim 3.

19. As per claims 14, it is rejected for similar reasons as stated above in claim 3.

Art Unit: 2154

20. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. [US Patent Application No 2003/0137933], in view of Nagata et al. [US Patent No 6,181,680].

21. As per claim 6, Yamada does not specifically disclose wherein each of the exchanges detects trouble through failure to receive a continuity check cell from the operation administration and maintenance function over one of the controlling connections. Nagata discloses wherein each of the exchanges detects trouble through failure to receive a continuity check cell from the operation administration and maintenance function over one of the controlling connections [col 2, lines 7-31; and col 5, lines 30-38]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Yamada and Nagata because Nagata's teaching of continuity check cell would allow to monitor the performance of a connection to quickly locate failure of a communication path.

22. As per claim 17, it is rejected for similar reasons as stated above in claim 6.

(10) Response to Argument

1. Applicant's arguments, see Argument A, filed 11/24/2006, with respect to 35 U.S.C. § 112 rejection have been fully considered and are persuasive. The 35 U.S.C. §112 rejection of claim 3 has been withdrawn.

Art Unit: 2154

2. As per remarks, see Argument B, claims 1 and 2, Applicants' argued that (1) Yamada does not disclose or suggest setting a plurality of PVC connections and individually corresponding controlling connections between two exchanges of a communication network and switching an operative PVC connection to another one of the PVC connections in response to a result of the detection.

3. As to point (1), Examiner respectfully disagrees as was noted in the previous Office Action dated 05/01/2006 as follows:

As to point (2), Yamada shows a PVC connection [i.e. lines X] and the corresponding controlling connection [i.e. the control PVC connection for detection of a failure] [Figures 1; and paragraphs 0041]. Yamada also shows plurality of PVC connections and the corresponding controlling connections [i.e. lines X and Y] [Figures 10 and 25].

So, the question is, broadly and reasonably interpreted, does the Yamada reference disclose or suggest, "a plurality of PVC connections and individual corresponding controlling connections", and Examiner finds that it clearly does. Specifically, Yamada reference relates to a line backup method and system in an ATM (Asynchronous Transfer Mode) network and to a line switchover method and a system for performing line switchover in the event of a line failure between exchange units [paragraphs 0002 and 0008]. In Figure 1, Yamada discloses *two exchanges A and B, and two connecting lines X and Y. Each of lines X, Y includes VPI (virtual path identifier) and VCI (virtual circuit identifier)* [Figures 2 and 26A and B; and paragraphs 0081, 0151 and 0152]. So Examiner interprets that as a plurality of PVC connections as claimed. Then, Yamada discloses *a control PVC [i.e. a dark double headed arrow] for detection of a failure on the line X is set up on the line X* [Figure 1; and paragraph 0041, lines

15-17]. Also, Yamada shows *each control PVC* [i.e. a dark double headed arrow] for each connecting line of plurality of connecting lines [Figure 7; and paragraph 0056]. So, Examiner interprets as individual corresponding controlling connections as claimed. Thus, Yamada discloses a plurality of PVC connections and individual corresponding controlling connections, and as such rendering the claimed language as written, unpatentable over the prior art of record.

The next question is, broadly and reasonably interpreted, does the Yamada reference disclose or suggest, “switching an operative PVC connection to another one of the PVC connections in response to a result of the detection”, and Examiner finds that it clearly does. Specifically, as mentioned above, Yamada discloses plurality of connections and each one of these connections has a dark double headed arrows, connection from exchange A to C, connection from exchange A to D, and connection from exchange D to C [i.e. plurality of PVC connections and individually corresponding controlling connections] [Figure 7; and paragraph 0056]. Furthermore, Yamada discloses *when a failure of the line connecting between exchange units A and C is detected* [paragraph 0057], *the system performs the process of switching over to connections between lines A to D and D to C* [paragraphs 0058-0066]. Therefore, Yamada clearly discloses switching an operative PVC connection to another one of the PVC connections in response to a result of the detection, and as such renders Applicants’ claimed language as written, unpatentable over the prior art of record.

4. As per remarks, see Argument B, claim 4, Applicants’ argued that (2) Yamada does not disclose or suggest controlling connections that are set by an operation administration and maintenance function.

5. As to point (2), the question is, as broadly and reasonably interpreted, does the Yamada reference disclose or suggest, “controlling connections that are set by an operation administration and maintenance function”, and Examiner finds that it clearly does. Specifically, Yamada discloses a control PVC [i.e. dark double headed arrow] for detection of a failure on the line X is set up for the line X [Figure 1; and paragraph 0041, lines 15-17], and *to detect the occurrence of a failure and switch the connection, a VC (Virtual circuit) AIS (Alarm Indication Signal) OAM (Operation Administration and Maintenance) cell is used* [paragraph 0005]. Furthermore, Yamada discloses that the communication line with the exchange unit at the remote end is monitored for the occurrence of a failure by sending *a periodic communication cell to the other exchange unit by using a control connection set up between the exchange unit*, and returns a response cell when a periodic communication cell is received from the other exchange unit [paragraphs 0099]. Thus, Yamada clearly discloses controlling connections that are set by an operation administration and maintenance function, and as such rendering the claimed language as written, unpatentable over prior art of record.

6. As per remarks, see Argument B, claim 5, Applicants' argued that (3) Yamada does not disclose that each of the exchanges detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connection.

Art Unit: 2154

7. As to point (3), thus the question is, as broadly and reasonably interpreted, does the Yamada reference disclose or suggest, "each of the exchanges detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connection", and Examiner finds that it clearly does. Specifically, Yamada discloses a control PVC [i.e. dark double headed arrow] for detection of a failure on the line X is set up for the line X [Figure 1; and paragraph 0041, lines 15-17], and to detect the occurrence of a failure and switch the connection, *a VC (Virtual circuit) AIS (Alarm Indication Signal) OAM (Operation Administration and Maintenance) cell is used* [paragraph 0005]. Furthermore, Yamada discloses that the periodic communication processing sends out a periodic communication cell to the exchange unit at the remote end by using the control connection connected to the remote unit, and if the response cell is not received within the prescribed time, the periodic communication processing sends a periodic communication no-response notification to the line failure detection block [Figures 12A and 12B; and paragraphs 0103-0106]. Therefore, Yamada clearly discloses each of the exchanges detects trouble through receipt of an alarm indication signal cell from the operation administration and maintenance function over one of the controlling connection, and as such rendering the claimed language as written, unpatentable over the prior art of record.

8. As per remarks, see Argument B, claim 7, Applicants' argued that (4) Yamada does not disclose or suggest setting a bypassing PVC connection prepared in advance for bypassing of a master PVC connection and a bypassing side OAM connection corresponding to the bypassing PVC connection between first and second exchanges.

9. As to point (4), the question is, as broadly and reasonably interpreted, does the Yamada reference disclose or suggest, “setting a bypassing PVC connection prepared in advance for bypassing of a master PVC connection and a bypassing side OAM connection corresponding to the bypassing PVC connection between first and second exchanges”, and Examiner finds that it clearly does. Specifically, Yamada discloses a system and method for a line connection to automatically switchover to a reserve connection in the event of line failure [Abstract; Figure 1; and paragraph 0002]. In that, Yamada teaches that *the relay connection management tables and terminating connection management tables are set up in advance from the maintenance consoles to set a line to be backed up*, a reserve lines as a backup line, and connections to be backed up on the line [i.e. setting a bypassing PVC connection prepared in advance for bypassing of a master PVC connection as claimed] [Figure 11; and paragraphs 0098, 0108, and 0119]. In addition, as mentioned above in point 1, Yamada discloses the system performs *the setting up process of switching over to reserve connections between lines A to D and D to C* [paragraphs 0058-0066]. And as shown in Figure 7 of Yamada, *each of these back up or reserve connection also has a dark double headed arrow* [i.e. control PVC]. Therefore, Yamamda teaches setting up a bypassing side OAM connection corresponding to the bypassing PVC connection as claimed, and as such rendering the claimed language as written, unpatentable over the prior art of record.

10. As per remarks, Applicants' argued, see Argument C, that (5) neither Yamada nor Heeren whether taken alone or in any reasonable combination, disclose or suggests the combination of features recited in claim 3.

11. As to point (5), Yamada discloses a method and system for performing line switchover in the event of a line failure between exchange units in ATM network [paragraph 0002]. Heeren also discloses a system to improve to a communication environment by enabling the detection of a failure and subsequent backup of a failed virtual circuit in communication system [col 3, lines 59-62]. As mentioned in the Final Office Action mailed on 05/01/2006, Yamada discloses all claimed limitation except that if, while the bypassing PVC connection is used, it is detected that the currently used PVC connection has been released through the corresponding controlling connection, then each of the exchanges switches the operative PVC connection to the currently used PVC connection. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Examiner relied on the second reference to point out that Heeren discloses the protocol architecture that supports frame relay transport residing in two planes of operation, the control plane and the user plane, and the control plane allows signaling to control the establishment and termination of transportable services on the user plane [Figure 2; and col 7, lines 27-42]. Also, Heeren discloses the process for recovering the primary circuit and switching back to the primary connection [i.e. switches the operative PVC connection to the currently used PVC connection as claimed] [col 10, lines 60-col 11, lines 19], wherein it would have been obvious to incorporate the teaching of Heeren into the system of

Yamada for the purpose of restoring the primary path so that a single link to be backed up over multiple links [Heeren, col 4, lines 38-41]. Thus, a *prima facie* case for obviousness has been properly made, and as such, the rejection should be affirmed.

10. As per remarks, Applicants' argued, see Argument D, that (6) neither Yamada nor Nagata whether taken alone or in any reasonable combination, disclose or suggests the combination of features recited in claim 6.

13. As to point (6), Yamada discloses a process for monitoring for the occurrence of a failure by sending a periodic communication cell to the other exchange unit by using a control connection set up between the exchange unit [paragraph 0099]. Nagata also discloses a system to monitoring the communication quality of a communication path set up by an ATM switch [col 1, lines 6-10]. As mentioned in the Final Office Action mailed on 05/01/2006, Yamada discloses all claimed limitation except that each of the exchanges detects trouble through failure to receive a continuity check cell from the operation administration and maintenance function over one of the controlling connections. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Examiner relied on the second reference to point out that Nagata discloses monitoring the OAM continuity check cell to verify whether the

Art Unit: 2154

communication path is functioning properly [Abstract; and col 5, lines 30-44], wherein it would have been obvious to incorporate the teaching of Nagata into the system of Yamada for the purpose of providing a method and apparatus for communication monitoring in an ATM switch, that can achieve reliable cell flow in an ATM switch system [Nagata, col 2, lines 46-49]. Thus, a prima facie case for obviousness has been properly made, and as such, the rejection should be affirmed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Conferees:

Nathan Flynn

Lynne Browne


**NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**


**NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**


**JOHN F. LANGAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**